Project Design Phase-I
Proposed Solution

Date	20 October 2022
Team ID	PNT2022TMID47019
Project Name	Smart Waste Management System For Metropolitan Cities
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

SL .No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	This proposed system deals with the problem of waste management in smart cities, where the garbage collection system is not optimized and in smart cities the efficient management of waste is a crucial challenge for the environment that IOT tends to address . This project enables the organizations to meet their needs of smart garbage management systems. This system allows the authorised person to alert the fill level of each garbage bin in a cities , to give a cost-effective and time-saving route to the truck drivers to collect the waste.
2.	Idea / Solution description	The key research objectives are as follows: • The proposed system would be able to do the waste bin includes a container with a lid, and its enclosure is equipped with sensors such as the HC-SR04 module, an ultrasonic sensor responsible for measuring the level of waste filling present inside the compartment. This is significant within the solution, because through its operation it is possible to avoid the overflow of waste or excessive garbage deposit. *The Proposed system consists of main subsystems namely Smart Trash System(STS) and Smart Monitoring and Controlling Hut(SMCH).

		In the proposed system, The solution also includes a load cell module (load sensor) that measures the weight of the residues present in the compartment. It is characterized by a great importance within the system, since many residues have a small volume and significant mass. The load sensor is coupled to a specific driver, such as HX711, which amplifies the signal emitted by the load cell in addition to providing interconnection with the microcontroller • In the proposed system, the received signal indicates the waste bin status at the monitoring and controlling system.
3.	Novelty / Uniqueness	During the festival season and other important events are monitored carefully so that we can predict the garbage overflow and also we can find the shortest route to reach the destiny so that we can reduce the consumption of fuel and time.
4.	Social Impact / Customer Satisfaction	From the public perception as worst impacts of present solid waste disposal practices are seen direct social impacts such as neighbourhood of landfills to communities, breeding of pests and loss in property values .
5.	Business Model (Revenue Model)	Waste Management organises its operations into two reportable business segments: It is a eco friendly model. Solid Waste, comprising the Company's waste collection, transfer, recycling and resource recovery, and disposal services, which are operated and managed locally by the Company's various subsidiaries, which focus on distinct geographic areas; and Corporate and Other, comprising the Company's other activities, including its development and operation of landfill gas- toenergy facilities in the INDIA, and its recycling brokerage services, as well as various corporate functions.

6.	Scalability of the Solution	This proposed system gives a solution that comprises hardware, software, and communication integrated into a solution that aims to optimize the management of the waste produced in cities through an approach that generates saving of the public money, contributes with the environment, and also encourages citizenship. Recycling is promoted between residents, results in clean &sustainable environment.